

CLAIMS

1. A polypeptide of formula (1):

$X^{1a}-X^{Ar1}-X^{2a}-X^{Ar2a}-X^3$ , (SEQ ID NO:7)

wherein:

- 5  $X^{1a}$  is an amino terminal or a sequence of from 1 to 4 amino acids;  
 $X^{Ar1}$  is an aromatic amino acid;  
 $X^{2a}$  is from two to four amino acids;  
 $X^{Ar2}$  is an aromatic amino acid; and  
10  $X^{3a}$  is a carboxy terminal or a sequence of from one to four amino acids.

2. A polypeptide according to claim 1 wherein:

- $X^{1a}$  is an amino terminal or a sequence of from 1 to 4 amino acids;  
15  $X^{Ar1}$  is F or W;  
 $X^{2a}$  is from two to four amino acids;  
 $X^{Ar2}$  is F or W; and  
 $X^{3a}$  is a carboxy terminal or a sequence of from one to four amino acids.

20 3. A polypeptide according to claim 2 wherein:

- $X^{1a}$  is an amino terminal or a sequence of from 1 to 4 amino acids, each of which are selected from G, A, I, L, V, S, T, K or R;  
 $X^{Ar1}$  is F or W;  
25  $X^{2a}$  is from two to four amino acids each of which are selected from G, A, I, L, V, S, T, K, R, H or F;  
 $X^{Ar2}$  is W; and  
 $X^{3a}$  is a carboxy terminal or a sequence of from one to four amino acids each of which are selected from G, A, I, L, V, S,  
30 T, K, R, H, F or Y.

4. A polypeptide according to claim 3 which is selected from the group:

WXXWXX (SEQ ID NO:8); where each X is independently any amino acid;

WXXWKF (SEQ ID NO:9); where each X is independently any amino acid selected from G, A, I, L, V, S, T, K, R, H, or F;

- 5 WXXWFXFXW (SEQ ID NO:10); where each X is independently any amino acid selected from G, A, I, L, V, S, T, K, R, H or F;  
WXXWHF (SEQ ID NO:11); where each X is independently any amino acid selected from G, A, I, L, V, S, T, or R; and  
WVRWHF (SEQ ID NO:2).

- 10 5. A polypeptide according to claim 1 comprising a sequence selected from the group:  
 $X^{1b}X^{2b}FX^{4b}X^{5b}X^{6b}X^{7b}W$  (SEQ ID NO:12); where each  $X^{1b-7b}$  is independently any amino acid;  
 $X^{1b}X^{2b}FX^{4b}X^{5b}X^{6b}X^{7b}W$  (SEQ ID NO:13); where each  $X^{1b-7b}$  is  
15 independently any amino acid selected from G, A, I, L, V, S, T, K, R, H, F or Y;  
 $X^{1b}X^{2b}FRX^{5b}X^{6b}X^{7b}W$  (SEQ ID NO:14); where each  $X^{1b, 2b}$  and each of  $X^{5b-7b}$  is independently any amino acid selected from G, A, I, L, V, S, T, K, R, H, F or Y;  
20  $X^{1b}X^{2b}FRX^{5b}X^{6b}X^{7b}W$  (SEQ ID NO:15); where  $X^{1b}$  and  $X^{2b}$  are independently selected from the group G, A, I, L, V, S, and T, and each of  $X^{5b-7b}$  is independently selected from the group G, A, I, L, V, S, and T.

6. A polypeptide selected from the group:

- 25 FWLRFT (SEQ ID NO:1);  
WVRWHF (SEQ ID NO:2);  
WHFIFW (SEQ ID NO:3);  
IWLSGLSRGVVVSFP (SEQ ID NO:4); and  
GSRILTFRSGSWYAS (SEQ ID NO:5),  
30 or a fragment thereof capable of binding to an E2F DNA-binding site.

7. A polypeptide which comprises a variant of a polypeptide according to claim 6, which variant comprises from one to four, preferably from one to three, more preferably one or two, amino  
35 acid variations, including substitutions, insertions and deletions.

8. A polypeptide according to any one of the preceding claims which inhibits the binding of an E2F protein to an E2F DNA binding site with an *in vitro* IC50 of less than 100 $\mu$ M.

5 9. A polypeptide which comprises a first portion having the amino acid sequence of a polypeptide defined in any one of claims 1 to 8 and a second portion, attached to the N- or C-terminus of the first portion, which comprises a sequence of amino acids not naturally contiguous to the first portion, said second portion comprising a membrane translocation sequence.

10 10. A composition comprising a polypeptide according to any one of the preceding claims in association with a carrier or diluent.

15 11. A method of inhibiting the growth of a eukaryotic cell which comprises bringing the cell into contact with a polypeptide according to any one of claims 1 to 9, or a composition according to claim 10, under conditions to provide for apoptosis.

12. A method according to claim 11 wherein apoptosis of the cell is induced by said polypeptide.

20 13. A polypeptide according to any one of claims 1 to 9 or a composition according to claim 10 for use in a method of treatment of the human or animal body.